REMARKS

Claims 1-34 are all the claims pending in the application. By this Amendment, Applicant amends claims 1, 8, 15, 22, 33, and 34.

Claim Rejections - 35 U.S.C. § 103

Claims 1-3, 6-10, 13-17, 19-24, and 26-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Horiguchi et al. (U.S. Pub. 2002/0071387, hereinafter "Horiguchi") in view of Uriu et al. (U.S. Patent 6,430,157, hereinafter "Uriu").

Independent claim 1 recites, *inter alia*:

> determining a total transmission rate of said first and second relay connections based on the first and second transmission rates;
>
> determining a first reallocated transmission rate and a second reallocated transmission rate, the first reallocated transmission rate and the second reallocated transmission rate apportioned from the total transmission rate; and
>
> allocating the determined first reallocated transmission rate to said first relay connection and the determined second reallocated transmission rate to said second relay connection.

By allocating first and second reallocated transmission rates, which are determined based on the total transmission rate, to each of said first and second relay connections, it is possible to allocate high bandwidth to one relay connection and to circulate bandwidth among the connections.

At pages 3 and 4 of the Office Action, the Examiner's position is based on the assertion that paragraph 47 of Horiguchi discloses allocating the total transmission rate among each of the first and second relay connections.

In Horiguchi, a plurality of logical lines for relaying packets, and a plurality of queues for storing packets on a logical line basis (based on the priority) are provided, (*see* Horiguchi, ¶¶ 47, 50). As described in paragraph 20 of Horiguchi, "a rate controller configured to generate timing

for outputting each packet stored in the first queue at **a predetermined rate** for each logical line." Thus, a rate with which to output packets stored in queue section 103 is previously fixed for each logical line. Further, rate controller 104 in bandwidth control portion 10 controls the timing at which packets are output, such that packets are output at **a rate preset** for each logical line (*see* Horiguchi, ¶ 50, "The rate controller 104 generates packet readout timing so that those packets treated as a guaranteed traffic can be outputted at a data rate preset for each priority queue portion 103"). Accordingly, timing control of rate controller 104 is performed such that high-priority packets stored in the queue will be preferentially output.

As discussed in the foregoing, in Horiguchi, an output rate is previously fixed for each logical line, and rate controller 104 outputs packets in accordance with the output rate. Because an output rate is previously fixed for each logical line, Horiguchi does not, and cannot, allocate high bandwidth to a specific logical line and circulate bandwidth among logical lines. Thus, neither efficient communication nor congestion control in the transport layer (*see e.g.*, Specification, p. 2, ll. 9-26) can be realized in Horiguchi. Further, paragraph 46 of Horiguchi discloses that contents of packets are changed and the format of the packets is converted (*see* Horiguchi, ¶ 46, "second FWD 30 for changing contents or converting formats of data scheduled to be transferred by the bandwidth control portion 10"). There is no teaching or suggestion that a total transmission rate is allocated.

Therefore, Horiguchi fails to disclose or suggest "determining a first reallocated transmission rate and a second reallocated transmission rate…apportioned from the total transmission rate" and "allocating the determined first reallocated transmission rate to said first relay connection and the determined second reallocated transmission rate to said second relay connection," as recited in claim 1.

Uriu discloses, in an ATM communication line control, an allowed transmission rate is stored in the management cell and is communicated, where a transfer path of the management cell is divided into an path between an external device (terminal) and a system, and into an intra-system path, and loop control is carried out in each path. In Uriu, the state information (bandwidth information and congestion information) of the ATM network is stored in the management cell, and a rate between a peak cell rate and a minimum cell rate is selected based on the information in the management cell (*see* Uriu, col. 1, ll. 7-16). Accordingly, calculation of the transmission rate in Uriu indicates the calculation of a rate (transmission rate) with which a cell is transmitted, based on the congestion information (*see* Uriu, col. 2, ll. 19-33).

Thus, the calculation of a transmission rate in Uriu is easily distinguishable from the calculation of the total transmission rate of a plurality of relay connections, as Uriu does not describe or suggest calculating the total transmission rate of a plurality of paths. Furthermore, since Uriu does not calculate the total transmission rate, Uriu does not disclose or suggest "allocating the determined first reallocated transmission rate to said first relay connection and the determined second reallocated transmission rate to said second relay connection," as recited in claim 1.

As a result, each of Horiguchi and Uriu fail to disclose or suggest the "determining" and "allocating" recited in claim 1. Therefore, even if Horiguchi and Uriu could have somehow been combined, the combination of Horiguchi and Uriu would still fail to teach or suggest the combination of features recited in claim 1, and hence claim 1 and its dependent claims are patentable over the combination of Horiguchi and Uriu for at least these reasons.

To the extent that independent claims 8, 15, 22, 33, and 34 recite features similar to those discussed above regarding claim 1, claims 8, 15, 22, 33, 34, and their dependent claims are also

patentable over the combination of Horiguchi and Uriu for at least reasons analogous to those discussed above regarding claim 1.

Claims 5, 12, and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Horiguchi in view of Uriu, as applied to claims 1, 8, and 15, and further in view of Yao et al. (U.S. Patent 6,097,697, hereinafter "Yao").

Claims 5, 12, and 19 depend on claims 1, 8, and 15, respectively, and incorporate all the features of claims 1, 8, and 15. Yao is cited merely for teaching application information in a data flow, and fails to cure the deficient disclosures of Horiguchi and Uriu. Even if Horiguchi, Uriu, and Yao could have somehow been combined, the combination of Horiguchi, Uriu, and Yao would still fail to teach or suggest the combinations of features in claims 1, 8, and 15, and hence claims 5, 12, and 19, as discussed above. Accordingly, claims 5, 12, and 19 are patentable over the combination of Horiguchi, Uriu, and Yao for at least these reasons.

Claims 4, 11, and 18 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Horiguchi in view of Uriu, as applied to claims 1, 8 and 15, and further in view of Rochberger et al. (U.S. Patent 6,760,309, hereinafter "Rochberger").

Claims 4, 8, and 11 depend on claims 1, 8, and 15, respectively, and incorporate all the features of claims 1, 8, and 15. Rochberger is cited merely for teaching effective transmission rates. Even if Horiguchi, Uriu, and Rochberger could have somehow been combined, the combination of Horiguchi, Uriu, and Rochberger would still fail to teach or suggest the combinations of features in claims 1, 8, and 15, and hence claims 4, 11, and 18, as discussed above. Accordingly, claims 4, 11, and 18 are patentable over the combination of Horiguchi, Uriu, and Rochberger for at least these reasons.

Claim 25 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Horiguchi in view of Uriu, as applied to claim 22, and further in view of Rochberger.

Claim 25 depends on claim 22 and incorporates all the features of claim 22. Rochberger is cited merely for teaching effective transmission rates. Even if Horiguchi, Uriu, and Rochberger could have somehow been combined, the combination of Horiguchi, Uriu, and Rochberger would still fail to teach or suggest the combination of features in claim 22, and hence claim 25, as discussed above. Accordingly, claim 25 is patentable over combination of Horiguchi, Uriu, and Rochberger for at least these reasons.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860
WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Respectfully submitted,

/ Christopher J. Bezak /

Christopher J. Bezak
Registration No. 63,241

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